



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY TIDEWATER REGIONAL OFFICE

Doug Domenech
Secretary of Natural Resources

5636 Southern Boulevard, Virginia Beach, Virginia 23462
(757) 518-2000 Fax (757) 518-2009
www.deq.virginia.gov

David K. Paylor
Director

Maria R. Nold
Regional Director

STATEMENT OF LEGAL AND FACTUAL BASIS

Hercules Incorporated
Ashland Hercules Water Technologies
Courtland, Virginia
Permit No. TRO- 60188

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Hercules Incorporated has applied for a Title V Operating Permit for its manufacturing facility in Courtland, Southampton County. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:

Yen T. Bao

Yen T. Bao
(757) 518-2195

Date: October 25, 2012

Regional Air Permits
Manager:

Troy D. Breathwaite

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Regional Director:

Maria R. Nold

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I. FACILITY INFORMATION

Permittee

Hercules Incorporated
Hercules Plaza
Wilmington, Delaware 19894

Facility

Ashland Hercules Water Technologies
27123 Shady Brook Trail
Courtland, Virginia 23837-2034

County-Plant Identification Number: 51-175-00012

Source Description

NAICS Code 325998 – All Other Miscellaneous Chemical Product and Preparation Manufacturing

The facility is one of three facilities at the site (Ashland Hercules Water Technologies, Eastman Chemical Resins, Inc., and Arkema Inc.) that have been determined to be under common control and considered to be one stationary source under the Clean Air Act by EPA Region III on 9/30/2004 and on 11/19/2009. Arkema is appealing EPA decision and the outcome is not known yet at this time. The source is located in an attainment area for all pollutants, is Title V major for VOC and HAP, and a PSD major source for VOC as its potential to emit is above the 100 tons/yr threshold for a chemical plant source category. Each facility has its own Title V permit; however, Virginia may decide to combine the three permits into one document in the future.

Ashland Hercules Water Technologies (AHWT) currently has a renewal Title V permit dated 2/11/10 that was last modified on 10/04/11. With this new permit modification, the underlying permits are an SOP dated 12/07/04 for its Aquapel® manufacturing process and the related wastewater neutralization process with a VOC emission cap of 92.9 tons/year, a minor NSR permit dated 2/17/11 for two boilers, 32.659 million Btu/hour maximum rated heat input capacity each, firing natural gas with distillate oil as back up fuel, and a minor NSR permit dated 3/07/2012 for a ≤ 33 million Btu/hour temporary boiler firing natural gas with distillate oil as back up fuel that can be brought on-site as needed.

II. COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit on 5/12/2011, has been conducted. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

III. EMISSIONS INVENTORY

A copy of the 2011 annual emission statement is attached. Emissions are summarized in the following table.

2011 Actual Emissions in Tons/year

Emission Unit	VOC	Non-VOC HAP
Aquapel® Process	72.20	8.27
Total	72.20	8.27

IV. REQUESTED MODIFICATION

The facility applied on 12/19/2011 for a minor NSR permit to install and operate a ≤ 33 million Btu/hr temporary boiler (Emission Unit ID# ES-TB), firing natural gas as primary fuel with distillate oil as back-up fuel during periods of natural gas curtailment. The boiler is to be brought on-site for temporary use when a need arises such as when the facility's regular boilers malfunction or are undergoing maintenance. The facility's regular boilers are two natural gas-fired boilers with distillate oil as back-up fuel which were permitted on 2/17/11. Note that the facility used to purchase steam from Dominion- Southampton Power Station. Hence, to be prepared for emergency in cases of disruption of service, it had obtained a permit on 9/29/09 for a 90 million Btu/hour distillate oil-fired temporary boiler (Emission Unit ID# TB1). Now that natural gas is available on-site, in addition to the two boilers permitted for installation on 2/17/11, the facility also wants to use a temporary boiler using natural gas with distillate oil as back-up fuel should the need arises. Hence, it submitted the 12/19/11 permit application. It also requested the 9/29/09 permit to be rescinded upon issuance of the new permit. The latter was issued on 3/07/12, and the 9/29/09 permit was rescinded on 3/09/12. This Title V permit modification is to incorporate the conditions from the 3/07/12 minor NSR permit and remove the conditions from the 9/29/09 permit. The facility had submitted an application for this modification at the same time with the minor NSR permit application. Both applications contain no Confidential Business Information even though the facility has a claim of confidential information that was accepted by DEQ on 2/23/98.

V. APPLICABILITY OF 9 VAC 5-80-230

This Title V permit modification will add a new emission unit (temporary boiler firing natural gas with distillate oil back-up, Emission Unit ID# ES-TB) and remove another unit (distillate oil-fired temporary boiler, Emission Unit ID# TB1) with all associated applicable requirements from the 3/07/12 minor NSR permit and the 9/29/09 minor NSR permit, respectively. Therefore, this modification will be processed using the Significant Modification Procedures as defined in 9 VAC 5-80-230.

VI. CHANGES TO TITLE V PERMIT- SECTION III. FUEL BURNING EQUIPMENT REQUIREMENTS- TEMPORARY BOILER

The new temporary boiler (Emission Unit ID# ES-TB) is displacing the former temporary boiler (Emission Unit ID# TB1) from the list of Emission Units. As a result, section III. Fuel Burning Equipment Requirements- Temporary Boiler (Emission Unit ID # TB1) is changed to reflect the new underlying permit dated 03/07/12 for the new temporary boiler (Emission Unit ID# ES-TB). Changes other than the title are discussed below.

A. Limitations

Low NOx burner is required as BACT. In addition, sulfur content in distillate oil is limited to 0.2% and visible emission is limited to 10% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9. Those conditions are more stringent than required by NSPS Subpart Dc that is applicable to the boiler.

The boiler is potentially subject to MACT Subpart DDDDD as the source is major for HAP. According to the 3/11/2011 final rule, the boiler would be exempt from the MACT as it meets the definition of a temporary boiler burning gaseous or liquid fuel including the requirements that it can be moved from one location to another by trailers and would not remain at a location for more than 12 consecutive months. However, as this rule is still under development with a proposed amendment dated 12/2/2011 and possibly others to follow, a Requirement by Reference condition is included as a reminder for the facility.

Fuel throughput limit is set for distillate oil but not for natural gas as the latter has lower emission factors for most criteria pollutants including SO₂ and NOx. Emission factors from AP-42 are used for all pollutants except for NOx which is guaranteed by the boiler manufacturer. The annual emission limits are based on the worst case fuel for each pollutant. They are all below the PSD significant levels; hence, PSD permitting does not apply. Additionally, CO₂^e emissions from the temporary boiler were estimated to be less than 75,000 tons/yr, hence, there are no applicable GHG permitting requirements.

Condition III.A.8 limits the operation of the temporary boiler to 12 consecutive months each time it is brought on-site so that it meets the definition of a temporary boiler in the current version of MACT Subpart DDDDD. Also, it is not allowed to operate when both of the regular boilers (ES-B1 and ES-B2) are operating except during the transition period when one of the boilers is being brought back on line after being down or being taken off line. This restriction is an adherence to the fact that ES-TB is permitted as a temporary boiler. Otherwise, a question may arise that all three boilers could be considered as one project for the applicability of PSD permitting requirements.

B. Monitoring

The visible emission observation requirement for any week that fuel oil is burned in Condition III.B.1 (Condition 14 of the 3/07/12 NSR permit) meets Part 70 requirements for periodic monitoring for visible emissions.

C. Recordkeeping

The permit includes requirements for maintaining records of all monitoring, testing, fuel information, maintenance, operator training, notification and reports as required by the permit. Records of fuel usage include the monthly usage of each fuel as required by NSPS Subpart Dc, and the annual consumption of distillate oil to demonstrate compliance with the throughput limit.

D. Testing

The permit requires initial visible emission evaluation by Method 9 in accordance with NSPS Subpart Dc while firing distillate oil.

The Department and EPA have authority to require additional testing not included in this permit if necessary to determine compliance with an emission limit or standard.

E. Notification and Reporting

Permit requires initial notifications and semi-annual fuel reports in accordance with NSPS Subpart Dc.

F. Streamlined Requirements

Most General Conditions in the 3/07/12 NSR permit were streamlined because they are already represented in the Title V General Conditions except for the following:

- The Permit Invalidation Condition 18 of the 3/07/12 NSR permit which sets the time limit to begin installation of the boiler unless an extension is granted is now Condition III.A.11.
- The Violation of Ambient Air Quality Standards Condition 24 of 3/07/12 NSR is not a Title V General Condition; however, it is already included under Section VI. Aquapel® Process Equipment Requirements.

VII. CHANGES TO TITLE V PERMIT- SECTION IV. FUEL BURNING EQUIPMENT REQUIREMENTS- TWO NATURAL GAS AND DISTILLATE OIL BOILERS (EMISSION UNIT ID# ES-B1 AND ES-B2)

Even though the 2/17/11 NSR permit for the two natural gas-fired boilers with distillate oil as back up fuel (ES-B1 and ES-B2) is unchanged and still valid, some minor changes are necessary for Section IV due to regulation changes or boilerplate language changes. Additionally, as these boilers use the same fuels and very close in size to the new temporary boiler (ES-TB), it is desirable to achieve consistency between sections III and IV with minor changes as deemed permissible. For other equipment in other sections of the Title V permit, no change is needed.

A. Limitations

Condition IV.A.4. Operating restrictions- The condition is changed to be consistent with Condition III.A.8 in restricting boiler operation when the temporary boiler is on site, i.e. both boilers (ES-B1 and ES-B2) shall not be operating at the same time with the temporary boiler (ES-TB) except during transition period as described in the condition.

Condition IV.A.5. Fuel Specifications- The natural gas minimum heat content requirement is in the 2/17/11 NSR permit but it is not in the temporary boiler (ES-TB) 3/07/12 NSR permit. It was deemed not necessary because natural gas is provided through pipeline, not under facility's control, and there is no throughput limit on natural gas. Therefore, the requirement is also removed for ES-B1 and ES-B2.

Condition IV.A.8. Requirements by Reference (MACT)- The language is changed slightly as the May 2011 stay on MACT Subpart DDDDD final rule is no longer valid. The rule is now in effect even though there are proposed amendments in progress.

B. Monitoring- No change

C. Recordkeeping- No change

D. Testing- No change

E. Notification and Reporting- No change

VIII. CONFIDENTIAL INFORMATION

The source submitted a list of proposed confidential business information dated February 3, 1998, and received on February 5, 1998. The DEQ concurred with the proposed list of information in a DEQ letter dated February 23, 1998. The Title V permit has been written to be self-explanatory but without any confidential business information so that it is suitable for public review. The permit application for the temporary boiler contains no Confidential Business Information, hence, the 3/07/12 NSR permit and changes made to the Title V permit also contain no Confidential Business Information.

IX. PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Tidewater News newspaper from Sunday, September 9, 2012 to Tuesday, October 9, 2012.